IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re patent application of:
Chitrapura et al. Atty. Docket No.: JP920030160US1

Serial No.: 10/729,165 Group Art Unit: 2626

Filed: December 5, 2003 Examiner: Vo, Huyen X.

For: EXTRACTING AND GROUPING OPINIONS FROM TEXT DOCUMENTS

Honorable Commissioner of Patents
Alexandria, Virginia 22313-1450

APPELLANT'S BRIEF ON APPEAL

Sir:

Appellant respectfully appeals the Final Rejection of claims 1-3, 6-10, 12-13, 16-35, and 37-42in the Final Office Action dated December 9, 2009. Notice of Appeal was timely filed on March 8, 2010.

I. REAL PARTY OF INTEREST

[0001] The real party of interest is International Business Machines Corporation, assignee of 100% interest of the above-referenced patent application.

II. RELATED APPEALS AND INTERFERENCES

[0002] There are no other appeals or interferences known to Appellant, Appellant's legal representative or Assignee, which would directly affect or be directly affected by or have a bearing on the Board's decision on this appeal.

III. STATUS OF CLAIMS

[0003] Claims 1-3, 6-10, 12-13, 16-35, and 37-42 are all the claims pending in the application and are under appeal. Claims 1, 10, 33, and 41-42 stand rejected under 35 U.S.C. §102(e) as being anticipated by Privault, et al. (U.S. Publication No. 2004/0128122), hereinafter referred to as "Privault." Claims 2-3, 6-9, 12-13, 16-19, 29-30, 34-35, and 37-40 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Privault, in view of Subasic, et al. (U.S. Patent No. 6,721,734), hereinafter referred to as "Subasic." Claims 31-32 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Privalult, in view of Subasic, and further in view of Chase (U.S. Patent No. 6,332,143), hereinafter referred to as "Chase."

IV. STATUS OF AMENDMENTS

[0004] An After Final Amendment under 37 C.F.R. § 1.116 was filed on February 9, 2010. An Advisory Action dated February 23, 2010 indicated that, upon filing an appeal, the Amendment filed on February 9, 2010 did not place the application in condition for allowance, and that the rejections of claims would remain. The claims shown in the appendix are shown in their amended form as of the February 9, 2010 Amendment.

V. SUMMARY OF CLAIMED SUBJECT MATTER

[0005] The Appellants' claimed invention is generally described in pages [0016] through [0051] of the specification and shown in Figures 1 through 4 of the application as originally filed. More specifically:

[0006] 1. A computer-implemented method of analyzing opinions in a text document, said method comprising: **(1)** using a computer, establishing a predetermined set of regular expressions, each regular expression of said predetermined set of regular expressions corresponding to a specific parts-of-speech (POS) tag sequence **{Fig. 1, item 125, paragraph [0017]}**; **(2)** using said computer, inputting and parsing said text document to provide a plurality of POS tag sequences **{Fig. 1, item 115, paragraph [0017]}**; **(3)** using said computer, matching said predetermined set of regular expressions to said plurality of POS tag sequences from said text document to provide one or more extracted opinions **{Fig. 1, items 120, 125, paragraph [0017]}**; and **(4)** using said

computer, lexically analyzing each word of said one or more extracted opinions to group said one or more extracted opinions into clusters of extracted opinions **{Fig. 1, item 135, paragraph [0017]}**.

[0007] 10. A program storage device readable by machine, tangibly embodying a program of instructions executable by said machine to perform a method of analyzing opinions in a text document, said method comprising: **(1)** establishing a predetermined set of regular expressions, each regular expression of said set of regular expressions corresponding to a specific parts-of-speech (POS) tag sequence **{Fig. 1, item 125, paragraph [0017]}**; **(2)** inputting and parsing said text document to provide a plurality of POS tag sequences **{Fig. 1, item 115, paragraph [0017]}**; **(3)** matching said predetermined set of regular expressions to said plurality of POS tag sequences from said text document to provide one or more extracted opinions **{Fig. 1, items 120, 125, paragraph [0017]}**; and **(4)** lexically analyzing each word of said one or more extracted opinions to group said one or more extracted opinions into clusters of extracted opinions **{Fig. 1, item 135, paragraph [0017]}**.

[0008] 33. A computer-implemented method of analyzing opinions in a text document, said method comprising: **(1)** using a computer, establishing a predetermined set of regular expressions, each regular expression of said set of regular expressions corresponding to a specific parts-of-speech (POS) tag sequence **{Fig. 1, item 125, paragraph [0017]}**; **(2)** using said computer, inputting and parsing said text document to provide a plurality of POS tag sequences **{Fig. 1, item 115, paragraph [0017]}**; **(3)** using

said computer, matching said predetermined set of regular expressions to said plurality of POS tag sequences from said text document to provide one or more extracted opinions **{Fig. 1, items 120, 125, paragraph [0017]}**; **(4)** using said computer, lexically analyzing each word of said one or more extracted opinions to group said one or more extracted opinions into clusters of extracted opinions **{Fig. 1, item 135, paragraph [0017]}**; and any of: **(5)** using said computer, marking said one or more extracted opinions in said text document with classification tags, wherein said classification tags correspond to said clusters of extracted opinions **{Paragraph [0033]}**; and **(6)** using said computer, graphically displaying said clusters of extracted opinions **{Paragraph [0033]}**, wherein said graphically displaying comprises any of: **(7)** displaying relative proportions of said extracted opinions in said clusters of extracted opinions **{Paragraph [0038]}**; and **(8)** displaying said clusters of extracted opinions using any of a pie-chart and a bar-chart **{Fig. 3, item 300, paragraph [0040]}**.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

[0009] The issues presented for review whether claims 1, 10, 33, and 41-42 are anticipated under 35 U.S.C. §102(e) by Privault, whether claims 2-3, 6-9, 12-13, 16-19, 19-30, 34-35, and 37-40 are unpatentable under 35 U.S.C. §103(a) by Privault, in view of Subasic, and whether claims 31-32 are unpatentable under 35 U.S.C. §103(a) by Privault, in view of Subasic, and further in view of Chase.

VII. ARGUMENT

A. The Rejection Based on Privault

1. The Position in the Office Action

[0010] The Office Action states:

[0011] Regarding claims 1, 10, and 33, Privault et al. disclose a method and program storage device (figure 1, memory) of analyzing opinions in a text document, said method (figure 2) comprising: using a computer, establishing a predetermined set of regular expressions (multiword regular expression database 210 in figure 2), each regular expression of said predetermined set of regular expressions corresponding to a specific parts-of-speech (pas) tag sequence (referring to figure 4; each word of the regular expression is associated with a pas tag); using said computer, inputting and parsing said text document to provide a plurality of pas tag sequences (text is input in 218 in figure 2; referring to paragraphs 64 and 66 for processing the input text to assign pas tags); and using said computer, matching said predetermined set of regular expressions to said plurality of pas tag sequences from said text document by to provide one or more extracted opinions (referring to paragraphs 66-69); using said computer, lexically analyzing each word of said one or more extracted opinions to group said one or more extracted opinions into clusters of extracted opinions (referring to paragraph 72; return extracted regular expression and categorization information); and using said computer, graphically displaying said clusters of extracted opinions, wherein said graphically

displaying comprises displaying relative proportions of said extracted opinions in said clusters of extracted opinions (referring to paragraphs 72-73; a cluster includes all possible senses of extracted regular expressions; each of these regular expressions are shown in relative of the others).

[0012] 5. Regarding claims 41-42, Privault et al. further disclose the step of graphically displaying said clusters of extracted opinions, wherein said graphically displaying comprises displaying relative proportions of said extracted opinions in said clusters of extracted opinions (referring to paragraphs 72-73; a cluster includes all possible senses of extracted regular expressions; each of these regular expressions are shown in relative of the others).

2. Appellants' Position

a. Independent Claims 1 & 10

[0013] The 2/23/2010 Communication states:

The semantic content of a particular identified multiword regular expression is considered the same as the claimed "extracted opinion". All multiword expressions inherently have a unique corresponding semantic content in order to convey the meaning of the expression. (2/23/2010 Communication, p. 2, ll. 1-3).

[0014] The Published Application states that [p]hrases expressing sentiments or having connotations are referred to herein as "opinions". The Merriam Webster online dictionary defines sentiment as "[a]n attitude, thought or judgment prompted by feeling: PREDICTION b: a specific view or notion: OPINION…"

[0015] Appellants note that Privault does not even mention "opinions" much less the "clusters of extracted opinions" recited in the claims. Instead Privault merely describes how multiword expressions are mapped to identifiers using finite state networks.

[0016] The Communication's asserts "[a]ll multiword expressions inherently have a unique corresponding semantic content in order to convey the meaning of the expression." However, the statement says nothing about the "clusters of extracted opinions" recited in the claims.

[0017] Appellants previous Response drew the examiner's attention to this issue. The issue was not answered by the assertion in the advisory action that multiword expressions inherently have unique corresponding semantic content.... (2/9/2010 Response, para. 5). Appellants respectfully submit that the failure to address a plainly stated claim limitation in a rejection is clear error and should be reversed by the Board.

[0018] Beyond the technical matter of the Office Action failing to address all the claim limitations, the applied prior art of record still does not disclose, teach, or suggest the limitations within claim 1. As noted above, Privault merely provides a mapping process for multiword expressions (see Privault Abstract, first sentence) and does not provide any teaching of a process of extracting opinions. Further, beyond just extracting opinions, independent claim 1 provides a step of "lexically analyzing each word of said one or more extracted opinions to group said one or more extracted opinions into clusters of extracted opinions." While there is arguably some lexical analysis being performed in

Privault during its mapping processes, there is nothing to suggest a process that groups extracted opinions into clusters as claimed.

[0019] The rejection proposes that paragraph 72 of Privault discloses the claimed step that groups the opinions into clusters; however, paragraph 72 of Privault merely describes that a multiword expression object may include morphologic, syntactic, or semantic information such as word categorization information, frequency of use (e.g., common expression), style of use (e.g., familiar or formal), pronunciation, and nuances of use, where paragraph 0072 of Privault states:

> . . . related information concerning the identified multiword expression provided in the multiword expression object 216 may include morphologic, syntactic, or semantic information such as word categorization information, frequency of use (e.g., common expression), style of use (e.g., familiar or formal), pronunciation, and nuances of use. Also at 326, information such as related (e.g., synonyms or antonyms) or overlapping multiword expressions can be provided concerning the identified multiword expression. For example, if the encoded multiword expressions describe patterns such as dates, times, personal and company names, locations, currency amounts, etc., then these multiword expressions can be used to identify related information, such as category information that the matching input automaton belongs to.

[0020] In other words, paragraph 72 of Privault only discloses that words within expressions can be categorized by looking at the syntactic, semantic, style, pronunciation, etc., of the words. This would not lead one ordinarily skilled in to art to a process that groups opinions into clusters as is claimed, but instead would only teach one a process to categorize words and phrases in a mapping process.

[0021] The Communication asserts that Privault paras. 66-69 disclose the features of the claims directed to "[m]atching said predetermined set of regular expressions to said

plurality of POS tag sequences from said text document by to provide one or more extracted opinions…" (12/9/2009 Communication, p. 3, ll. 14-16).

[0022] As noted above, Privault says nothing about "opinions" Moreover, Privault paras. 66-69 merely describes compiling an input string into a conventional automaton. (Privault, para. 66, ll. 3-4). This conventional input automaton is then matched against the lower-side of the multiword expression transducer. (Privault, para. 67, ll. 1-3). The result or output is a multiword expression ID that identifies a multiword expression that represents a base form of a multiword expression found in the input string. (Privault, para. 68. ll. 6-10). Thus, it is clear that Privault merely provides a means for identifying the presence of base forms in an input string and says nothing about extracting opinions.

[0023] Therefore, Appellants respectfully submit that the rejection is clearly in error because it fails to address all the claim limitations, and further (even if this is not considered clear error) that the prior art of record does not disclose anything that would motivate one ordinarily skilled in the art to arrive at a computer implemented method that extracts opinions from a text document and clusters the extracted opinions as is claimed. Instead Privault merely teaches one a process of categorization as part of a mapping process.

[0024] In view the foregoing, the Board is respectfully requested to reconsider and withdraw this rejection.

b. Independent Claim 33

[0025] Appellants submit that claim 33 defines patentable subject matter for at least the reasons discussed above with respect to claim 1. However, claims 33 further recites features directed to: any of: using said computer, marking said one or more extracted opinions in said text document with classification tags, wherein said classification tags correspond to said clusters of extracted opinions; and using said computer, graphically displaying said clusters of extracted opinions, wherein said graphically displaying comprises any of: displaying relative proportions of said extracted opinions in said clusters of extracted opinions; and displaying said clusters of extracted opinions using any of a pie-chart and a bar-chart, as recited in claim 33.

[0026] Appellants respectfully submit that the asserted rejection of claim 33 is silent with respect to these features. (See for example, 12/9/2009 Communication, p. 3, ll. 3- p. 4, ll. 5). The failure to address all the features of claim 33 renders the rejection improper on its face. In view the foregoing, the Board is respectfully requested to reconsider and withdraw this rejection.

c. Dependent Claims 41-42

[0027] Appellants respectfully submit that the recited portions of Privault contain no disclosure, teaching or even suggestion of extracted opinions as recited in claims 41 and 42. Thus, since Privault discloses nothing about extracted opinions it cannot disclose graphically displaying clusters of said extracted opinions as recited in claims 41 and 42.

[0028] In view the foregoing, the Board is respectfully requested to reconsider and withdraw this rejection.

B. The Rejection Based on Privault and Subasic

1. The Position in the Office Action

[0029] The Office Action states:

[0030] Regarding claims 2-3,6-9,12-13,16-19,29-30, and 34-35, and 37-40, Privault et al. fail to specifically disclose subject matters claimed in claims 2-3, 6-9, 12-13, 16-19, 29-30, and 34-35, and 37-40. However, Subasic et al. teach wherein said clusters of extracted opinions comprise any of positive and negative clusters of extracted opinions, and neutral (col. 6, lines 1-7), organizing said clusters of extracted opinions into groups, wherein said one or more extracted opinions within each of said groups comprises a similar topic (col. 6, lines 1-7, grouping categories with high similarity together), wherein said lexically analyzing each word of said one or more extracted opinions comprises accessing a natural language database to group said one or more extracted opinions into said clusters of extracted opinions (col. 6, lines 1-7, grouping categories with high similarity together), wherein said lexically analyzing each word of said one or more extracted opinions comprises identifying any of a synonym and an antonym for said each word of said one or more extracted opinions (col. 5, lines 61-67, thesaurus is used), wherein said lexically analyzing each word of said one or more extracted opinions comprises determining of a_morphological stem for said each word of

said one or more extracted opinions (normalization in step 102 in figure 2 and/or referring to col. 3, lines 18-36), and marking said one or more extracted opinions in said text document with classification tags, wherein said classification tags correspond to said clusters of extracted opinions (col. 3, lines 49 to col. 5, line 67).

[0031] Since Privault et al. and Subasic et al. are analogous in the art because they are from the same field of endeavor, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Privault et al. by incorporating the teaching of Subasic et al. in order to analyze of human emotion through written text.

2. Appellants' Position

a. Dependent Claims 2, 12 and 34

[0032] Dependent claims 2, 12 and 34 do not stand or fall with their respective independent claims, but instead are independently patentable for the following reasons. Appellants submit that the cited portion of Subasic fails to disclose, teach or even suggest at least the features directed to: "[w]herein said clusters of extracted opinions comprise any of positive and negative clusters of extracted opinions…" as recited in dependent claim 2 and similarly recited in dependent claim 12 and 34.

[0033] Instead, Subsasic, col. 6, ll. 1-7 as cited by the Communication simply describe "[f]or example, we might find that love, attraction, happiness, desire and pleasure formed one affect category group, while revulsion, horror inferiority and pain formed another…" The cited portion described the affect of words but make no reference

to the opinions to which the claimed invention is directed. In view the foregoing, the Board is respectfully requested to reconsider and withdraw this rejection.

b. Dependent Claims 3, 13 and 35

[0034] Dependent claims 3, 13 and 35 do not stand or fall with their respective independent claims, but instead are independently patentable for the following reasons. Claims 3, 13 and 35 further recite a neutral cluster of extracted opinions. However, the affect categorization described in Subasic and cited above is silent regarding a neutral category. In view the foregoing, the Board is respectfully requested to reconsider and withdraw this rejection.

c. Dependent Claims 6, 16 and 37

[0035] Dependent claims 6, 16 and 37 do not stand or fall with their respective independent claims, but instead are independently patentable for the following reasons. The claims clearly recite that it is the opinions which are clustered. However, Subasic col. 6, ll. 1-7 as noted above merely describes affect category grouping which is not the same as organizing said clusters of extracted opinions into groups, wherein said one or more extracted opinions within each of said groups comprises a similar topic. In view the foregoing, the Board is respectfully requested to reconsider and withdraw this rejection.

d. Dependent Claims 7, 17 and 38

[0036] Dependent claims 7, 17 and 38 do not stand or fall with their respective independent claims, but instead are independently patentable for the following reasons. Subasic, col. 6, ll. 1-7 describes how the fuzzy thesaurus provides the criterion for determining high similarity. However, there is simply no suggestion that each word of the one or more extracted opinions is analyzed. Moreover, as noted above, no opinions are extracted thus none are capable of being analyzed. In view the foregoing, the Board is respectfully requested to reconsider and withdraw this rejection.

e. Dependent Claims 8, 18 and 39

[0037] Dependent claims 8, 18 and 39 do not stand or fall with their respective independent claims, but instead are independently patentable for the following reasons. Appellants respectfully submit that Subasic col. 5, ll. 61-67 merely describe a conventional expansion of the affect lexicon by allowing the user to expand the affect lexicon by selectively enabling a thesaurus. (Subasic, col. 5, ll. 61-65). However, claim 8 is directed to "wherein said lexically analyzing each word of said one or more extracted opinions comprises identifying any of a synonym and an antonym for said each word of said one or more extracted opinions…" Thus, rather than expanding an affect lexicon with additional terms from a thesaurus as described by Subasic, the claims clearly recite the lexical analysis of each word of said one or more extracted opinions. In view the foregoing, the Board is respectfully requested to reconsider and withdraw this rejection.

f. Dependent Claims 9, 19 and 40

[0038] Dependent claims 9, 19 and 40 do not stand or fall with their respective independent claims, but instead are independently patentable for the following reasons. Appellants note that the Communication asserts that Subasic, col. 3, ll 18-36 discloses "[w]herein said lexically analyzing each word of said one or more extracted opinions comprises determining a morphological stem for said each word of said one or more extracted opinions…"

[0039] However, the first line of the Subasic citation states quite clearly that "[t]he process of analyzing the affect of any document in a database according to the present invention requires the generation of an affect set for a document…" (Subasic, col. 3, ll. 18-20). Thus, Subasic merely generates an affect set for a document and says nothing about extracting opinion. For at least this reason, Subasic cannot disclose lexically analyzing each word of the extracted opinions. In view the foregoing, the Board is respectfully requested to reconsider and withdraw this rejection.

g. Dependent Claims 29 and 30

[0040] Dependent claims 29 and 30 do not stand or fall with their respective independent claims, but instead are independently patentable for the following reasons. The Communication asserts that Subasic, col. 3, ll. 49- col. 5, ll. 67 discloses "further comprising marking said one or more extracted opinions in said text document with

classification tags, wherein said classification tags correspond to said clusters of extracted opinions" as recited in dependent claims 29 and similarly recited in dependent claim 30.

[0041] Appellants respectfully submit that the cited portions of Subasic simply do not disclose marking one or more extracted opinions in said text document with classification tags. They merely describe how Subasic's affect lexicon is created. In view the foregoing, the Board is respectfully requested to reconsider and withdraw this rejection.

C. The Rejection Based on Privault, Subasic, and Chase

1. The Position in the Office Action

[0042] The Office Action states:

[0043] Regarding claims 31-32, Privault et al. fail to specifically disclose the step of graphically displaying said clusters of extracted opinions, wherein said graphically displaying comprises displaying relative proportions of said extracted opinions in said clusters of extracted opinions, and wherein said graphically displaying comprises displaying said clusters of extracted opinions using a bar-chart. However, Chase teaches the step of graphically displaying said clusters of extracted opinions, wherein said graphically displaying comprises displaying relative proportions of said extracted opinions in said clusters of extracted opinions (figure 5), and wherein said graphically displaying comprises displaying said clusters of extracted opinions using a bar-chart (figure 5).

[0044] Since Subasic et al. and Chase are analogous in art because they are from the same field of endeavor, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Subasic et al. by incorporating the teaching of Chase in order to provide the user a visual summary of emotional characteristics of the text document.

2. Appellants' Position

a. Dependent Claims 31-32

[0045] Dependent claims 31-32 do not stand or fall with their respective independent claims, but instead are independently patentable for the following reasons. Appellants note that Chase Fig. 5 as cited by the Communication fails to disclose opinions and is directed to the display of emotion. Chase states for example that "[r]eferring to FIG. 5 a bar graph 68 is displayed indicating the global emotion rating of the passage." (Chase, col. 12, ll. 3-4). Thus, contrary to the assertions of the Communication, Chase, Fig. 5 displays emotions rather than clusters of extracted opinions as recited in the claims. In view the foregoing, the Board is respectfully requested to reconsider and withdraw this rejection.

VIII. CONCLUSION

[0046] In view the forgoing, the Board is respectfully requested to reconsider and withdraw the rejections of claims 1-3, 6-10, 12-13, 16-35, and 37-42.

[0047] Please charge any deficiencies and credit any overpayments to Attorney's Deposit Account Number 09-0441.

Respectfully Submitted,

Date: May 7, 2010

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CLAIMS APPENDIX

1. (Rejected) A computer-implemented method of analyzing opinions in a text document, said method comprising:

using a computer, establishing a predetermined set of regular expressions, each regular expression of said predetermined set of regular expressions corresponding to a specific parts-of-speech (POS) tag sequence;

using said computer, inputting and parsing said text document to provide a plurality of POS tag sequences;

using said computer, matching said predetermined set of regular expressions to said plurality of POS tag sequences from said text document to provide one or more extracted opinions; and

using said computer, lexically analyzing each word of said one or more extracted opinions to group said one or more extracted opinions into clusters of extracted opinions.

2. (Rejected) The method of claim 1, wherein said clusters of extracted opinions comprise any of positive and negative clusters of extracted opinions.

3. (Rejected) The method of claim 1, wherein said clusters of extracted opinions comprise any of positive, negative, and neutral clusters of extracted opinions.

4-5. (Cancelled).

6. (Rejected) The method of claim 1, further comprising organizing said clusters of extracted opinions into groups, wherein said one or more extracted opinions within each of said groups comprises a similar topic.

7. (Rejected) The method of claim 1, wherein said lexically analyzing each word of said one or more extracted opinions comprises accessing a natural language database to group said one or more extracted opinions into said clusters of extracted opinions.

8. (Rejected) The method of claim 1, wherein said lexically analyzing each word of said one or more extracted opinions comprises identifying any of a synonym and an antonym for said each word of said one or more extracted opinions.

9. (Rejected) The method of claim 1, wherein said lexically analyzing each word of said one or more extracted opinions comprises determining a morphological stem for said each word of said one or more extracted opinions.

10. (Rejected) A program storage device readable by machine, tangibly embodying a program of instructions executable by said machine to perform a method of analyzing opinions in a text document, said method comprising:

establishing a predetermined set of regular expressions, each regular expression of said set of regular expressions corresponding to a specific parts-of-speech (POS) tag sequence;

inputting and parsing said text document to provide a plurality of POS tag sequences;

matching said predetermined set of regular expressions to said plurality of POS tag sequences from said text document to provide one or more extracted opinions; and

lexically analyzing each word of said one or more extracted opinions to group said one or more extracted opinions into clusters of extracted opinions.

11. (Cancelled).

12. (Rejected) The program storage device of claim 10, wherein said clusters of extracted opinions comprise any of positive and negative clusters of extracted opinions.

13. (Rejected) The program storage device of claim 10, wherein said clusters of extracted opinions comprise any of positive, negative, and neutral clusters of extracted opinions.

14-15. (Cancelled).

16. (Rejected) The program storage device of claim 10, further comprising organizing said clusters of extracted opinions into groups, wherein said one or more extracted opinions within each of said groups comprises a similar topic.

17. (Rejected) The program storage device of claim 10, wherein said lexically analyzing each word of said one or more extracted opinions comprises accessing a natural language database to group said one or more extracted opinions into said clusters of extracted opinions.

18. (Rejected) The program storage device of claim 10, wherein said lexically analyzing each word of said one or more extracted opinions comprises identifying any of a synonym and an antonym for said each word of said one or more extracted opinions.

19. (Rejected) The program storage device of claim 10, wherein said lexically analyzing each word of said one or more extracted opinions comprises determining a morphological stem for said each word of said one or more extracted opinions.

20-28. (Cancelled).

29. (Rejected) The method of claim 1, further comprising marking said one or more extracted opinions in said text document with classification tags, wherein said classification tags correspond to said clusters of extracted opinions.

30. (Rejected) The program storage device claim 10, further comprising marking said one or more extracted opinions in said text document with classification tags, wherein said classification tags correspond to said clusters of extracted opinions.

31. (Rejected) The method of claim 41, wherein said graphically displaying comprises displaying said clusters of extracted opinions using any of a pie-chart and a bar-chart.

32. (Rejected) The program storage device of claim 42, wherein said graphically displaying comprises displaying said clusters of extracted opinions using any of a pie-chart and a bar-chart.

33. (Rejected) A computer-implemented method of analyzing opinions in a text document, said method comprising:

using a computer, establishing a predetermined set of regular expressions, each regular expression of said set of regular expressions corresponding to a specific parts-of-speech (POS) tag sequence;

using said computer, inputting and parsing said text document to provide a plurality of POS tag sequences;

using said computer, matching said predetermined set of regular expressions to said plurality of POS tag sequences from said text document to provide one or more extracted opinions;

using said computer, lexically analyzing each word of said one or more extracted opinions to group said one or more extracted opinions into clusters of extracted opinions; and

any of:

using said computer, marking said one or more extracted opinions in said text document with classification tags, wherein said classification tags correspond to said clusters of extracted opinions; and

using said computer, graphically displaying said clusters of extracted opinions, wherein said graphically displaying comprises any of:

displaying relative proportions of said extracted opinions in said clusters of extracted opinions; and

displaying said clusters of extracted opinions using any of a pie-chart and a bar-chart.

34. (Rejected) The method of claim 33, wherein said clusters of extracted opinions comprise any of positive and negative clusters of extracted opinions.

35. (Rejected) The method of claim 33, wherein said clusters of extracted opinions comprise any of positive, negative, and neutral clusters of extracted opinions.

36. (Cancelled).

37. (Rejected) The method of claim 33, further comprising organizing said clusters of extracted opinions into groups, wherein said one or more extracted opinions within each of said groups comprises a similar topic.

38. (Rejected) The method of claim 33, wherein said lexically analyzing each word of said one or more extracted opinions comprises accessing a natural language database to group said one or more extracted opinions into said clusters of extracted opinions.

39. (Rejected) The method of claim 33, wherein said lexically analyzing each word of said one or more extracted opinions comprises identifying any of a synonym and an antonym for said each word of said one or more extracted opinions.

40. (Rejected) The method of claim 33, wherein said lexically analyzing each word of said one or more extracted opinions comprises determining a morphological stem for said each word of said one or more extracted opinions.

41. (Rejected) The method of claim 1 further comprising graphically displaying said clusters of extracted opinions, wherein said graphically displaying comprises displaying relative proportions of said extracted opinions in said clusters of extracted opinions.

42. (Rejected) The program storage device of claim 10 further comprising graphically displaying said clusters of extracted opinions, wherein said graphically displaying comprises displaying relative proportions of said extracted opinions in said clusters of extracted opinions.

EVIDENCE APPENDIX

Not applicable.

RELATED PROCEEDINGS APPENDIX

Not applicable.